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NOTES CONCERNING A FEW CASES

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ELECTRO-STATIC REMEDY

WAS USED.

BY

IRVING C. ROSSE, M.D.,

MEMBER OF THE AMERICAN NEUROLOGICAL ASSOCIATION.

Read before the Medical Society of the District of Columbia, January 18th, 1888.

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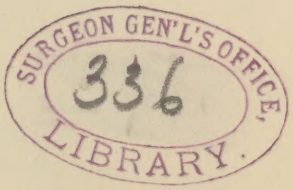

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NOTES CONCERNING A FEW CASES IN WHICH THE ELECTRO-STATIC REMEDY WAS USED.

My apology for naming Statical Electricity in connection with the desultory remarks about to follow must be the fact that the use of franklinism in neurological therapeutics is comparatively recent, and that the physicians of Washington have not given the subject the attention it merits.

The simple reason for this neglect is, that no one skilled in the use of the more perfected machines has yet brought the matter before this body in such a manner as to elicit discussion.

More than one medical man has said to me, "Oh, I don't believe in electricity, I have tried it and can get no results." Further conversation revealed the fact that these skeptics had, to say the least, but cloudy notions of the difference between a galvanic and a faradic battery; they had never heard of a differential calorimeter, and static electricity was to them a sealed book. My remarks may not accrue to the delectation or benefit of such a grade of development; for it is one not likely to make a correct interpretation of any medical fact, and it would be an insult to your intelligence to presume for a moment that any of you is so lacking in this regard, or that most of you are unfamiliar with the current literature of static electricity, more particularly as it has appeared in the journals for the last few years.

My attention was first directed to the subject while pursuing a neurological course under the tuition of Prof. William A. Hammond, when my friend Dr. W. J. Morton,

of New York, kindly gave me the benefit of an experience that was subsequently extended at the Post-Graduate Medical School. Dr. Morton's admirable paper, read before the New York Academy of Medicine not long ago, is a great advance and development of the ideas of Franklin, and it did much to give vogue and therapeutical standing to this valuable agent. Since then, numerous writers and experimenters have taken up static electricity. The style of machines—formerly so defective in construction as to bring this form of electricity into disrepute—has now been so far improved and perfected as to secure the maximum of tension and quantity, and, at the same time, the machines are so little hygroscopic as to work in all conditions of the atmosphere. As I do not wish to occupy time and attention by further reference to details that are doubtless familiar to most of you, I shall confine myself to the brief mention of a few cases selected at random from a considerable number that I have treated; and if the comments thereon should appear rambling and disconnected, I must anticipate the criticism with the excuse that I have merely noted the thoughts that were uppermost, and most engrossed my attention at the time the cases were under observation.

Those mentioned in the first group are recitals of failure. It may not be pleasant to record one's failures; but in the interest of truth and wisdom it must be done, since the interpretation of a negative is often more instructive than that of a positive result.

In September, 1885, there came under my notice a man of 38, who during five years had been treated for rheumatism, impaired eyesight, and general debility. The symptoms were first noticed in China, where his tabetic walk often subjected him to the imputation of being drunk, though perfectly sober. He complained of sharp darting pains from the small of his back to the soles of his feet, in which were sharp tingling pains and a feeling as if the toes were too large for his shoes; of a sense of tightness around the waist; of dizziness; of trouble with his throat, and occasional spells of vomiting. The patient had a his-

tory of syphilis, and his alcoholic and nicotinic habits were bad.

There were no objective manifestations of rheumatism; but the patient was unable on closing his eyes to touch designated points of his body with the index finger, or to stand or walk without staggering, and the knee jerk was absent. In brief, he showed the typical sensory, motor, and cerebroscopic signs of that form of dorsal tabes usually known as progressive locomotor ataxy.

Treatment availed but little in this case, and the patient went on from bad to worse.

The same may be said of a case of antero-lateral sclerosis, which was left under my care in August, 1886, for a month, during the temporary absence of another physician. In this case, the symptoms, both sensory and motor, were most apparent in the lower extremities, being manifested by exaggeration of the patellar tendon reflex, the presence of ankle clonus, and vesical and rectal disturbance.

Negative results were also obtained in the case of a man of middle age, who consulted me in February, 1887, and who, for several years, had suffered from the effects of an obliteration of one of the cerebral arteries, one of the results being left hemiplegia.

Another patient, past the meridian of life rather from physiological than chronological cause, and suffering from impotency, was taken in hand on February 23d, 1887. After a month's treatment, he was not materially improved.

On October 4th, 1886, I began the use of static electricity in a case of ovarian insanity. After a month's treatment, I was obliged to admit to the patient's friends that I could do her no good.

In a case of religious melancholia in a young, unmarried woman, who came under my care in December, 1886, I also used the static current. She ultimately recovered; but I attribute the cure rather to the means taken to improve her general health and to removal of the constipation and menstrual irregularity from which she suffered.

For fear that further recitals of the foregoing character may convey the impression that failure is co-extensive with success in the matter under consideration, I will now mention a few other cases in which the results of treatment were of a happier nature.

In March, 1887, I was consulted by a delicate woman, the mother of a family. She had passed the period of the menopause, but complained much of her general health and of insomnia. Her principal trouble was a disturbance of the thermogenic function, the sensation of cold in the extremities being so severe at night that she was obliged to resort to various artificial means in order to bring about sleep.

This sensation in reality was not accompanied by loss of heat, the symptom being purely subjective, and one of exaggerated sensibility to cold, owing to inability on the part of the nervous system to make an instructive comparison between two mesological conditions, or, in other words, a disturbance of the thermic sensibility. Even in a state of health, an inability to make a correct comparison of this kind, as we know, gives rise to the incongruity existing between heat and cold as experienced by the human body and the actual temperature as revealed by the thermometer. Travellers and experimenters having often noticed that these sensations are not absolute, it is proposed to differentiate the phenomena as physical cold and physiological cold, the former indicating that revealed by the thermometer or calorimeter, the latter that of a purely subjective nature, and not indicated by instruments.

If not straying too far away from my subject, I shall ask your indulgence to relate some personal experiences in which these relative sensations were observed by me in different latitudes. On a polar voyage to the Siberian Arctic in the middle of July, I have seen the decks covered with snow and hail, that was accompanied by a bitter cold wind that penetrated one's winter clothing, and a few days afterwards, when the thermometer registered but 45° F., the heat was extremely uncomfortable. Again in the latter part of June at St. Michael's, Alaska, the sun

was almost overpowering, although the thermometer registered but 60° F. In striking opposition to this is the piercing cold that I have experienced on being exposed to a "Levanter" in the vicinity of the Mediterranean Straits off the coast of Morocco, and to Texas northers, during the continuance of which the cold is felt more acutely than it would be in the Arctic regions. This phenomenon is also noticed among the Andes in Peru. A disagreeable sensation of cold not indicated by the thermometer is one of the experiences of travellers in that part of the world, the cold being keen and penetrating with the mercury standing at only 60°.

Numerous instances might be cited in which Arctic travellers have noted such relative sensations, as well as the impunity with which they have exposed themselves to a low temperature that would be attended by serious results in a more southern latitude. After supporting cold of — 47° F., the sensation — 29 or 24 is an agreeable one. Dr. Hayes relates that in Greenland he went swimming in a pool of water on the top of an iceberg. The captain of a New Bedford whaler has often gone swimming off the coast of Siberia. On one of the physiologically warm days that sometimes occur in high latitudes, I plunged in the icy waters of Kotzebue Sound, and after the momentary sideration that accompanied the shock had passed away there was no great discomfort. The swim was, moreover, followed by a pleasurable reaction.

The physiological action of cold upon the nervous system deserves a more prominent place, since it is through the medium of the nervous system that results the instinctive comparison of heat and cold. Moreover, the sensation as regards cold is not always accompanied by loss of heat. That it may be purely subjective, not only in disease but in health, it is the object of this digression to set forth.[1]

The second case coming under my observation, in which there was a more marked subjective sensation of cold un-

[1] See writer's article on Cold in "Reference Handbook of the Medical Sciences."

attended by any objective manifestation, was that of a neurasthenic theological student who complained of a feeling of icy coldness in the right hand and lower half of arm. Why such a sensation should exist without the appreciable subtraction of heat I am at a loss to explain. In the human species, the sensation caused by the absence, loss, or diminution of the mode of motion known as heat does not follow the oscillations of the exterior temperature as a grape vine or a marmot, but is dependent upon the state of the organism and other individual conditions. A common instance of this condition is seen in the cold stage of intermittent fever, which shows an elevation of temperature much above the normal, not only during, but preceding the appearance of the chill. The sensation of cold in other cases is not produced in spite of real and progressive cooling of the body, such as is noticeable in the algid attack of pernicious fever or the lowering of temperature during the sensation of heat that accompanies the reactive stage of a cold bath. On the other hand, in locomotor ataxy with greatly diminished sensibility, patients have been known to be unable to wash in cold water without experiencing the keenest pain and subsequent discomfort. Sometimes in myelitis, a piece of ice placed on the skin of the trunk causes a disagreeable burning sensation. I know of a case of neuritis in which the application of hot water produced a sensation of cold. Most of us know of the subjective chilliness following doses of aconitia. An abolishment of the sense of cold occurs in some swimmers accustomed to passing long hours in the water; and the mind also makes the body less insensible as in the case of ecstatic thoughts, lively emotions, or derangement. Familiar instances occur in religious devotees; in delicate women who, through vanity, forget their habitual sensibility to cold, and expose the neck and shoulders to freezing temperatures; and in the insane, who often go stark naked in winter without being affected by the cold.

I shall leave it to others to trace the relativity of the foregoing remarks with the cases in question, and will

simply state that the perverted thermic sensations were promptly relieved by no other treatment than that of the electro-static remedy, the immediate effect of which was to cause increased sensation of heat, and slight diaphoresis when applied by insulation and sparks.

Other cases in which static electricity acts with a promptness not procurable by any other remedy are those of myalgia, subacute or chronic rheumatism, gout, and inflammation of the neurilemma of the sciatic nerve. I have in mind numerous cases of what are popularly known as stiff neck, crick in the shoulder, and lumbago, all of which promptly disappeared after one or more applications.

The patients in all these instances attributed the origin of their malady to cold, the morbific influence of which, by the way, is greatly exaggerated, not only by the laity, but by physicians themselves, who attribute so many ailments to this cause that to enumerate them would almost be to repeat the nosological table. Many morbid conditions are attributed to cold in which this agent in reality takes no part or is only an accessory. Many old and even some contemporary authors rank under the head of maladies from cold such general diathetic diseases as gout and rheumatism, and speak of the latter as a prominent disease of cold countries, when as a matter of fact, rheumatism belongs rather to temperate climates, being met with in India and Egypt, but not in the Polar regions. The returns of the English Army, which is stationed nearly all over the globe, show the truth of this assertion. Take a single instance. At Nova Scotia, a proportion of 30 cases of rheumatism to the 1,000 occurred; while under the more temperate climate of the Cape of Good Hope, there were 57 in the 1,000. On two successive voyages to the Siberian Arctic, I have not met with a single case of bronchitis or rheumatism, or even a common cold except among Eskimo, who, by the way, appear not to stand cold so well as white men. During the last few years, circumpolar parties have escaped all sickness, and sledging expeditions have been exposed to continuous

cold of — 50° with no great inconvenience. That cold does occasionally provoke an attack of one of the fore-mentioned diseases may be admitted, but to speak of it as a pathogenic cause is just as absurd as to say that cold causes typhus and scurvy or cirrhosis of the liver and chronic nephritis. As a cause of diseases or of death, cold no doubt brings us into the presence of a great number of affections, yet we may eliminate many diseases the origin of which is improperly attributed to the effects of cold upon the organism, this agent in truth being only an indirect or quite accessory fact.

A circumstance that sometimes arises in connection with the application of electricity is one concerning the doubts and fears of patients with heart trouble. This feeling seems to be inspired through the popular mistake that they are to be shocked or have a thunderbolt hurled at them. An illustrative observation is that of a matronly person, who consulted me in August, 1886. She was anæmic and neurasthenic, and had the cardiac symptoms usual to such conditions. A short stay at a southern seaside resort had proved of no benefit, and she had been particularly counseled by her physician to avoid sea bathing and electricity. After two weeks' treatment, I allowed my patient to go to Atlantic City, with instructions to take a dip in the surf, of a minute only at the first bath, and gradually prolong the time a few minutes each day.

My direction, being faithfully carried out, inured to the ultimate benefit of the patient, who stated, on her return, that she had not felt so well for years. At present her health is such that she has nothing to complain of.

Every physician knows how tedious and difficult and barren in results is the treatment of copodycinesia, an affection that appears to be more observed of late than formerly. We now find it as one of the common neural disorders in artisans of various classes, such as the hæphestic palsy of boiler-makers, the loss of "grip" of telegraph operators, and the affection known as "Charlie horse" among professional base-ball players. I have also

lately seen a case in a woman whose occupation for a number of years has been counting greenbacks in the Treasury Department. Another case worthy of mention is one in which the disorder was most apparent in the muscles concerned in writing. It occurred in an adult male, whose vocation necessitated a sedentary and monotonous life. The treatment, begun January 23d, consisted of daily application of electricity by insulation and sparks, relaxation from work, and a Sunday ramble in the country. On March 4th, he was discharged cured.

I now finally call your attention to a case of paraplegia that I have treated with the happiest result. It is that of a man of 51, who was brought to my office in a rolling chair in May, 1886. He stated that he had been paralyzed from the small of his back downwards for more than a year; that formerly he suffered from severe pains at times, but at present slept well, and enjoyed a good appetite, although suffering from constipation and occasional difficulty in evacuating the contents of his bladder.

The patient's venereal history was good; but having been a soldier during the late "unpleasantness," he had an attack of dengue fever in 1863, and suffered subsequent privation as a prisoner of war, which left him with what was supposed to be sciatica and rheumatism.

On examination, I could find no outward visible or tangible manifestation of rheumatism and no appreciable cardiac lesion, the heart's action being normal, and but slightly excited.

I immediately applied the actual cautery to the lower dorsal spine, and continued the treatment by drawing long sparks from the back and paralyzed limbs. Rapid improvement took place. The patient now walks without lameness, and is, in fact, well. He has been good enough to come here this evening, and I shall show him to you presently.

If I chose to incur additional risk of being tedious, these remarks might be prolonged by further references to considerations of a therapeutic, physiological, and mechanical character; but this is not the time or place for a more ex-

tended exposition. I may, however, add that former objections to statical electricity have been done away with, owing to the construction of superior machines in which the tension and quantity are within the control of the operator. The one that I use consists of six twenty-six-inch plates, driven by a Tuerk water motor. It does all the work of the best faradic machines, and is more serviceable than ordinary galvanism. Removal of the patient's clothing is unnecessary, and the currentmay be so regulated as to range from an agreeable sensation, or an almost imperceptible tingle, up to an extreme muscular contraction.

The manner of applying is by insulation, sparks, shocks, and the induced current. The patient being placed upon a tabaret and electrified, a difference of potential takes place, his body being raised one potential higher than that of the earth, which is zero. By means of an umbrella electrode, an equalization of potentials is provoked, giving the effect of *spray* or *electric wind;* and if an electrode be approached or placed in contact with the patient's body, a more vigorous equalization takes place, manifesting itself in the form of sparks, which become more violent as the patient's potential is increased. The application of the statical induction current to the human body with physiological results is among the latest novelties, and the nerve and muscle reactions produced thereby are now admitted by all physicians and electrical experts. It is difficult to tell just what the ultimate molecular disturbance is that takes place in the cure of the myriad manifestations of hysteria, nervous exhaustion, and hyperæsthesia when statical electricity is used. Every physician knows how common and how perplexing such cases are. But if, at the right moment, the proper agent is applied, we get a result that forces upon us the conviction that static electricity has therapeutic effects peculiarly its own; and it is no figure of speech to say that the lightning which Franklin drew down from the heavens has become the physician's most useful handmaid.

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